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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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06/04/2001

Syed K. Enam

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09/14/2004

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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

09/873,750

Applicant(s)

ENAM ET AL.

Examiner

Kevin Y Kim

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 16-20 and 25 is/are allowed.
- 6) ☒ Claim(s) 8, 9, 10, 11, 14, 15, 21, 22 is/are rejected.
- 7) ☒ Claim(s) 12, 13, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 8-11,14,15,21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Tajima et al (US 6,373,911).

Consider claim 8. Referring to Figs. 1 and 4, Tajima et al discloses a method of multiplexing an input data stream in a serializer, comprising:

receiving at a serializer, an input data stream (DATA) and an input data clock (Ref,CLK);
generating multiple multi-phase clocks (PH1, ..., PH4) based on the input data clock
wherein the multiple multi-phase clocks have different phase offsets; and
demultiplexing the input data stream into multiple data streams (Q1, ..., Q2) using the multiple multi-phase clocks.

Next consider claims 9 and 15. Referring to Figs. 1,4 and 9, Tajima et al discloses a method of phase aligning an input data stream in a serial transmitter, comprising:

receiving at a serial transmitter, an input data stream (DATA) and a data clock (Ref,CLK);
generating multiple multi-phase clocks (PH1, ..., PH4) based on the data clock wherein

the multiple multi-phase clocks have different phase offsets; .
demultiplexing the input data stream into multiple data streams (Q1, ..., Q4) using the
multiple multi-phase clocks; and
multiplexing (see Fig.6) the multiple data streams based on a transmission clock
(FRAME CLK in Fig.9),
thereby constructing an output data stream which is referenced to the
transmission clock. Additionally with respect to claim 15, the output data stream (Q) is
serialized as one of the multiple data streams is selected one by one. See Fig.6.

Regarding claims 10 and 11, the “data clock,” i.e., Ref, CLK, and “transmission clock,”
i.e., FRAME CLK, are not dependent on each other, thus being “independent” and “different”
from each other.

Regarding claim 14. Figs. 5 and 9 shows generating sequence signals (S`1,..., S`4) that
control the multiplexing of the multiple data streams, wherein the sequence signals are based on
the transmission clock (FRAME CLK).

Next consider claims 21. Referring to Figs. 1 and 4, Tajima et al discloses a phase
alignment circuit in a serial transmitter, said phase alignment circuit
comprising:

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a multi-phase clock generator (2) which produces multiple clocks (PH1, ..., PH4) based on an input data clock (Ref. CLK), wherein the multiple clocks have different phase offsets,

a demultiplexer (4) which demultiplexes an input data stream into multiple data streams (Q1, ..., Q4) using the multiple clocks; and

a multiplexer (6) which multiplexes the multiple data streams using control signals (S'1,..., S'4) referenced to a transmission clock (FRAME CLK). See Fig.9

Regarding claim 22, the “data clock,” i.e., Ref, CLK, and “transmission clock,” i.e., FRAME CLK, are not dependent on each other, thus being “independent”

Allowable Subject Matter

3. Claims 1-7,16-20 and 25 are allowed.

4. Claims 12,13,23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: no prior art has been found to teach a phase alignment method or device comprising generating multi-phase clock signals to demultiplex an input data stream, where sequence (select) signals that are initialized according to a reset condition as well as the multi-phased clock signals to avoid collisions between transitions of data in the demultiplexed data stream and transitions of corresponding data in the output data stream.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk


CHIEH M. FAN
PRIMARY EXAMINER